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10/084,731	02/26/2002	James E. Roddy	83529NAB	8323
7590	10/03/2003			
Milton S. Sales Patent Legal Staff Eastman Kodak Company 343 State Street Rochester, NY 14650-2201			EXAMINER PHAM, HAI CHI	
			ART UNIT 2861	PAPER NUMBER 3
DATE MAILED: 10/03/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,731

Applicant(s)

RODDY ET AL.

Examiner

Hai C Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-110 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-110 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Drawings

1. The original drawing has been received and correctly published along with disclosure. However, the set of the above drawing has been misplaced. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to be greatly appreciate if Applicants could furnish a replacement for the drawing at the next response to this Office action.

Claim Objections

2. The following claims are objected to because of the following informalities:

Claim 8:

- “said photosensitive photographic print film having at least four sensitive layers” should read --said photosensitive medium is a photographic print film having at least four sensitive layers--.

Claim 9:

- “said photosensitive photographic reversal film having at least four sensitive layers” should read --said photosensitive medium is a photographic reversal film having at least four sensitive layers--.

Claim 24:

- Line 11, “an optical system for combining and imaging said modulated beams onto said photosensitive medium” should read --combining and imaging said

modulated beams onto said photosensitive medium--, where the last method step should adopt the claim language of a method claim.

Claim 71:

- “said photosensitive photographic print film having at least four sensitive layers” should read –said photosensitive medium is a photographic print film having at least four sensitive layers--.

Claim 72:

- “said photosensitive photographic reversal film having at least four sensitive layers” should read –said photosensitive medium is a photographic reversal film having at least four sensitive layers--.

Claim 85:

- Line 7, “modulating combining” should read --modulating and combining--;
- Line 9, “an optical system for imaging said modulated beams onto said photosensitive medium” should read –imaging said modulated beams onto said photosensitive medium--, where the last method step should adopt the claim language of a method claim.

Claim 93:

- “said photosensitive photographic print film having at least four sensitive layers” should read –said photosensitive medium is a photographic print film having at least four sensitive layers--.

Claim 94:

- “said photosensitive photographic reversal film having at least four sensitive layers” should read –said photosensitive medium is a photographic reversal film having at least four sensitive layers–.

Claim 108:

- Line 10, “combing” should read –combining--;
- Line 11, “blue color beams” should read --blue color beams,--;
- Line 11, “modulator means for modulating said blue-green, green, red, and blue color beams” should read – modulator means for modulating said combined blue-green, green, red, and blue color beams--;
- Line 13, “an optical system for combining and imaging said modulated beam” should read –an optical system for imaging said modulated beam--, since “combining” is performed by the dichroic modulator recited earlier within the claim.

Claim 109:

- Line 10, “combing” should read –combining--;
- Line 11, “blue color beams” should read --blue color beams,--;
- Line 11, “modulator means for modulating said blue-green, green, red, and blue color beams” should read – modulator means for modulating said combined blue-green, green, red, and blue color beams--;
- Line 13, “an optical system for combining and imaging said modulated beam” should read –an optical system for imaging said modulated beam--, since

“combining” is performed by the dichroic modulator recited earlier within the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The following claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16:

- The following limitation “said modulators are comprised of electro-optic modulators **and** polygon **scanners** (emphasis added)” appears to be ambiguous in that the polygon scanners are neither defined as being modulators nor taught to perform the function of a modulator for modulating the light beams. Moreover, there is only a single polygon scanner being used to deflect the *combined* light beams. A proposed amendment would be --said modulators are comprised of electro-optic modulators combined with a polygon scanner--.

Claim 19:

- The limitation as recited in claim 19 is unclear in that *each* of the light sources cannot comprise a plurality of different LED-type light sources. On the other

hand, there are seven types of LEDs being recited in claim 19, where only four light sources being claimed in the base claim 1.

Claim 21:

- The following limitation “said modulators are comprised of electro-optic modulators **and** a raster scan device” appears to be ambiguous in that the raster scan device is neither defined as being a modulator nor taught to perform the function of a modulator for modulating the light beams.

Claim 22:

- The following limitation “said modulators are comprised of electro-optic modulators **and** a hologon” appears to be ambiguous in that the hologon is neither defined as being a modulator nor taught to perform the function of a modulator for modulating the light beams.

Claim 23:

- The following limitation “said modulators are comprised of electro-optic modulators **and** a galvo” appears to be ambiguous in that the galvo is neither defined as being a modulator nor taught to perform the function of a modulator for modulating the light beams.

Claim 39:

- The following limitation “polygon scanners” appears to be ambiguous in that there is only a single polygon scanner being used to deflect the *combined* light beams.

Claim 42:

- The limitation as recited in claim 42 is unclear in that *each* of the light sources cannot comprise a plurality of different LED-type light sources. On the other hand, there are seven types of LEDs being recited in claim 42, where only four light sources being claimed in the base claim 24.

Claim 62:

- Similarly, the limitation as recited in claim 62 is unclear in that *each* of the light sources cannot comprise a plurality of different LED-type light sources. On the other hand, there are seven types of LEDs being recited in claim 62, where only four light sources being claimed in the base claim 44.

Claim 82:

- Similarly, the limitation as recited in claim 82 is unclear in that *each* of the light sources cannot comprise a plurality of different LED-type light sources. On the other hand, there are seven types of LEDs being recited in claim 82, where only four light sources being claimed in the base claim 64.

Claim 104:

- Similarly, the limitation as recited in claim 104 is unclear in that *each* of the light sources cannot comprise a plurality of different LED-type light sources. On the other hand, there are seven types of LEDs being recited in claim 104, where only four light sources being claimed in the base claim 86.

Claim 107:

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- Claim 107 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for being incomplete. The essential steps for performing the printing operation are missing.

Appropriate correction is requested.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 64, 74-76, 80-83, 85-86, 96-98, 102-105, 107 are rejected under 35 U.S.C. 102(b) as being anticipated by Enomoto et al. (U.S. 5,982,407).

Enomoto et al., an acknowledged prior art, discloses a color printer comprising four light sources (red LED unit 11, green LED unit 12, blue LED unit 13, white light source 60, Fig. 11) for generating four respective color light beams, each of the light beams being modulated by the digital micromirror device (10), which could be an LCD modulator, and an optical system (29) for combining and imaging the modulated light beams onto the photosensitive medium (30).

7. Claim 110 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (U.S. 6,414,705 B1).

Yamada et al. discloses a color printer comprising a light source for generating at least a first color beam, a second color beam, a third color beam, and a fourth color beam, a corresponding number of LCD shutter elements (7) for turning ON/OFF said color beams, and an optical system (9) for imaging said modulated beams onto a photosensitive medium.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 6, 10, 15-21, 24, 29, 33, 38-44, 49, 53, 58-63, 108-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kessler et al. (U.S. 4,728,965) in view of McQuade et al. (U.S. 4,956,702).

Kessler et al., an acknowledged prior art, discloses a laser printer comprising three laser light sources (18, 20, 22) emitting light of different colors, three corresponding acousto-optic modulators (32s, 48s) for modulating the respective color light beams, and an optical system for combining (beam splitters 70, 80) and imaging (scan optics 96, 98 and cylindrical mirror 104) the modulated light beams onto a photosensitive medium (30).

However, Kessler et al. fails to teach the fourth laser light source and the photosensitive medium being photographic paper having at least four sensitive layers.

McQuade et al. discloses an imaging apparatus basically formed with three laser diodes for forming image on a photographic paper having the same number (three) of sensitive layers as that of the laser light sources. McQuade et al. further teaches the imaging apparatus could have any number of laser diodes as light sources and the corresponding photosensitive film would have the same number of sensitive layers dedicated to the respective color light beams (col. 13, lines 41-54).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include at least four light sources for emitting light of different colors and the photographic paper of the same number of sensitive layers as taught by McQuade et al. in the device of Kessler et al. The motivation for doing so would have been to produce a full-color, continuous tone image on the photographic paper, as suggested by McQuade et al.

With regard to claims 108-109, Kessler et al. further teaches a first dichroic mirror (70) for combining the red and green laser beams emitted from the respective light sources (20 and 22), and a second dichroic mirror (80) for combining all the color laser beams for imaging. However, Kessler et al. fails to teach the selective color laser beams to be combined as claimed. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to arrange the color light sources such that selective color beams can be combined as claimed in the modified device of Kessler et al., since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

10. Claims 2-5, 7-9, 25-28, 30-32, 45-48, 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kessler et al. in view of McQuade et al., as applied to claims 1, 24, 44 above, and further in view of Hanson, Jr. (U.S. 2,763,549).

Kessler et al. in view of McQuade et al., discloses all the basic limitations of the claimed invention except for the motion picture film.

Hanson, Jr. discloses a photographic film having a number of color-sensitive layers used in forming a color image including motion picture negative/print/reversal film.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the motion picture film as taught by Hanson, Jr. in the modified device of Kessler et al. The motivation for doing so would have been to produce natural color pictures.

11. Claims 11-14, 22-23, 34-37, 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kessler et al. in view of McQuade et al., as applied to claims 1, 24, 44 above, and further in view of Okazaki (Pub. No. U.S. 2001/0022566 A1).

Kessler et al. in view of McQuade et al., discloses all the basic limitations of the claimed invention except for the different types of modulators.

However, it is well known in art that a variety of modulators can be alternatively selected to perform the common function of modulating the light beams, such as acousto-optic, reflective or transmissive LCD, DMD, gated light valve, electro-optic modulators, as evidenced by Okazaki, which discloses a color laser display for forming

image by combining a plurality of modulate laser beams, the modulators (2) can be selected from the group mentioned above.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a desired modulator selected from the group of modulators as taught by Okazaki to the modified device of Kessler et al. The motivation for doing so would have been to provide a wide range of modulating devices available for selection to match a particular application.

12. Claims 65-73, 87-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al. in view of Hanson, Jr.

Enomoto et al. discloses all the basic limitations of the claimed invention except for the motion picture film.

Hanson, Jr. discloses a photographic film having a number of color-sensitive layers used in forming a color image including motion picture negative/print/reversal film.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the motion picture film as taught by Hanson, Jr. in the device of Enomoto et al. The motivation for doing so would have been to produce natural color pictures.

13. Claims 77-79, 84, 99-101, 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto et al. in view of Okazaki.

Enomoto et al. discloses all the basic limitations of the claimed invention except for the different types of modulators.

However, it is well known in art that a variety of modulators can be alternatively selected to perform the common function of modulating the light beams, such as acousto-optic, reflective or transmissive LCD, DMD, gated light valve, electro-optic modulators, as evidenced by Okazaki, which discloses a color laser display for forming image by combining a plurality of modulate laser beams, the modulators (2) can be selected from the group mentioned above.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a desired modulator selected from the group of modulators as taught by Okazaki to the device of Enomoto et al. The motivation for doing so would have been to provide a wide range of modulating devices available for selection to match a particular application.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

September 16, 2003